# Chapter 5 Pedestrians



This chapter summarizes existing and future pedestrian needs in the City of Tigard, outlines the criteria to be used in evaluating these needs, provides a number of strategies for implementing a pedestrian plan and recommends a pedestrian Action Plan for the City of Tigard. The needs, criteria and strategies were identified in working with the City's TSP Task Force. This committee provided input regarding the transportation system in Tigard, specifically exploring pedestrian needs. The methodology used to develop the pedestrian plan combined citizen and staff input, specific Transportation Planning Rule requirements<sup>1</sup> and continuity to the regional pedestrian network.<sup>2</sup>

#### **NEEDS**

A limited number of sidewalks are provided on the arterial and collector roadways (see Figure 3-15) in the City of Tigard, resulting in a fair existing pedestrian network. However, many residential subdivisions in Tigard are relatively new and a majority of them have sidewalks available. A problem exists outside the limits of the new developments where connecting sidewalks often do not exist. Continuity and connectivity are key issues for pedestrians in Tigard since, generally, if there is a sidewalk available, there will be sufficient capacity. In other words, it is more important that a continuous sidewalk be available than that it be of a certain size or type.

The most important existing pedestrian needs in Tigard are providing sidewalks on arterials and collectors and connectivity to key activity centers in the City. This includes the need for safe, well lighted arterial and collector streets. Arterials and collectors can act as barriers to pedestrian movement if safe facilities are not provided. In the future, pedestrian needs will be similar, but there will be additional activity centers that will need to be considered and interconnected.

Walkway needs in Tigard must consider the three most prevalent trip types:

- Residential based trips home to school, home to home, home to retail, home to park, home to transit, home to entertainment, home to library
- Service based trips multi-stop retail trips, work to restaurant, work to services, work/shop to transit
- Recreational based trips home to park, exercise trips, casual walking trips

Residential trips need a set of interconnected sidewalks radiating out from homes to destinations within one-half to one mile. Beyond these distances, walking trips of this type become significantly less common (over 20 minutes). Service based trips require direct, conflict-free connectivity between uses (for example,

Transportation Planning Rule, State of Oregon, DLCD, Sections 660-12-020(2)(d) and 660-12-045-3.

Metro Draft RTP, 1999, Regional Pedestrian System.

a shopping mall with its central spine walkway that connects multiple destinations). Service based trips need a clear definition of connectivity. This requires mixed use developments to locate front doors which relate directly to the public right-of-way and provide walking links between uses within one-half mile. Recreational walking trips have different needs. Off-street trails, well landscaped sidewalks and relationships to unique environmental features (creeks, trees, farmland) are important.

Because all of these needs are different, there is no one pedestrian solution. The most common need is to provide a safe and interconnected system that affords the opportunity to consider the walking mode of travel, especially for trips less than one mile in length.

### **FACILITIES**

Sidewalks should be built to current design standards of the City of Tigard/Washington County and in compliance with the Americans with Disabilities Act (at least four feet of unobstructed sidewalk).<sup>3</sup> Wider sidewalks may be constructed in commercial districts or on arterial streets. Additional pedestrian facilities may include accessways, pedestrian districts and pedestrian plazas, as defined in the *Transportation Planning Rule*:<sup>4</sup>

*Accessway*: A walkway that provides pedestrian and/or bicycle passage either between streets or from a street to a building or other destination such as a school, park or transit stop.

*Pedestrian District*: A plan designation or zoning classification that establishes a safe and convenient pedestrian environment in an area planned for a mix of uses likely to support a relatively high level of pedestrian activity.

*Pedestrian Plaza*: A small, semi-enclosed area usually adjoining a sidewalk or a transit stop which provides a place for pedestrians to sit, stand or rest.

These designations will be provided as the TSP is implemented. Any pedestrian districts, for example the downtown area (Main Street), may be identified in further studies which address pedestrian issues. In addition, pedestrian issues in *Main Street* and *Town Center* areas (as defined by Metro) should be reviewed in greater detail for pedestrian accessibility, facilities and/or street crossing treatments. The land uses proposed in the *Main Street* and *Town Center* areas will help to promote more pedestrian use. Better pedestrian access should be developed to support and encourage this use.

Sidewalks should be sized to meet the specific needs of the adjacent land uses and needs. Guidance to assess capacity needs for pedestrians can be found in the *Highway Capacity Manual* and *Pushkarev and Zupan*. Typically, the base sidewalk sizing for local and neighborhood routes should be 5 feet (clear of obstruction).

<sup>&</sup>lt;sup>3</sup> Americans with Disabilities Act, Uniform Building Code.

<sup>&</sup>lt;sup>4</sup> Transportation Planning Rule, State of Oregon, Department of Land Conservation and Development, OAR-660-12-005(2, 14 and 15).

<sup>&</sup>lt;sup>5</sup> Highway Capacity Manual, Special Report 209, Transportation Research Board, 1994; Chapter 13; and Pushkarev, Zupan, Urban Spaces for Pedestrians, 1975.

Pushkarev & Zupan define impeded pedestrian flow occurring at 2 to 6 pedestrians per foot per minute. At this upper level (6 p/f/m) a five foot sidewalk would have peak five minute capacity of 150 pedestrians. There is no location in Tigard with this level of pedestrian activity. While identified as level of service B in the Highway Capacity Manual, no sidewalk in Tigard should exceed 6 pedestrians per foot per minute without widening. The critical element of this analysis is the effective width of walkway. Because of street utilities and amenities, a five foot walkway can be reduced to two feet of effective walking area. This is the greatest capacity constraint to pedestrian flow. Therefore, landscape strips should be considered on all walkways to reduce the impact of utilities and amenities – retaining the full sidewalk capacity.

As functional classification of roadways change, so should the design of pedestrian facilities. Collectors may need to consider minimum sidewalk widths of 6 to 8 feet and arterials should have sidewalk widths of 6 to 10 feet. Wider sidewalks may be necessary depending upon urban design needs and pedestrian flows (for example, adjacent to storefront retail or near transit stations). Curb-tight sidewalks are generally acceptable at the local and neighborhood route classification, however, with high vehicle volumes and on collector/arterial streets, landscape strips between the curb and the sidewalk should be required. Where curb-tight sidewalks are the only option, additional sidewalk width must be provided to accommodate the other street side features (light poles, mail boxes, etc... potentially an additional 3 to 4 feet).

### **CRITERIA**

Tigard's TSP Task Force created a set of goals and policies to guide transportation system development in Tigard (see Chapter 2). Several of these policies pertain specifically to pedestrian needs:

#### Goal 1

Policy 2 Encourage pedestrian accessibility by providing safe, secure and desirable pedestrian routes.

#### Goal 2

- Policy 1 Develop and implement public street standards that recognize the multi-purpose nature of the street right-of-way for utility, pedestrian, bicycle, transit, truck and auto use.
- Policy 4 Sidewalks must be constructed on all streets within Tigard (with construction or reconstruction projects). All schools, parks, public facilities and retail areas shall have direct access to a sidewalk.
- Policy 5 Bicycle and pedestrian plans shall be developed which link to recreational trails.
- Policy 6 Local streets shall be designed to encourage a reduction in trip length by providing connectivity and limiting out-of-direction travel. Provide connectivity to activity centers and destinations with a priority for bicycle and pedestrian connections.

#### Goal 3

Policy 3 Safe and secure pedestrian and bicycle ways shall be designed between parks and other activity centers in Tigard.

Policy 4 Safe and secure routes to schools shall be designated for each school and any new residential project shall identify the safe path to school for children

#### Goal 5

Policy 1 Design and construct transportation facilities to meet the requirements of the Americans with Disabilities Act.

These goals and policies are the criteria that all pedestrian improvements in Tigard should be compared against to determine if they conform to the intended vision of the City.

### **STRATEGIES**

Several strategies were evaluated by the TSP Task Force for future pedestrian projects in Tigard. These strategies aimed at providing the City with priorities to direct its funds toward pedestrian projects that meet the goals and policies of the City:

### Strategy 1 - "Fill in Gaps in the Network Where Some Sidewalks Exist"

This strategy provides sidewalks which fill in the gaps between existing sidewalks where a significant portion of a pedestrian corridor already exists. This strategy maximizes the use of existing pedestrian facilities to create complete sections of an overall pedestrian network.

# Strategy 2 – "Connect Key Pedestrian Corridors to Schools, Parks, Recreational Uses and Activity Centers"

This strategy provides sidewalks leading to activity centers in Tigard, such as schools and parks. This strategy provides added safety on routes to popular pedestrian destinations by separating pedestrian flow from auto travel lanes. These routes are also common places that children may walk, providing them safer routes. A key element of this strategy is to require all new development to define direct safe pedestrian paths to parks, activity centers, schools and transit (in the future) within one mile of the development site. Direct will be defined as 1.25 times the straight line connection to these points from the development. Any gaps (off-site) will be defined (location and length).

# Strategy 3 – "Coordination of Land Use Approval Process to Provide Sidewalks & Links to Existing Sidewalks"

This strategy uses the land use approval process to ensure that sidewalks are provided adjacent to new development and that links from that new development to existing sidewalks are evaluated. If there are existing sidewalks in close proximity, either the developer or the City will be required to extend the sidewalk adjacent to the new development to meet the existing nearby sidewalk. The development shall use the pedestrian master plan as a basis for determining adjacent sidewalk placement. To effectively implement this strategy, close proximity shall be determined to be within 300 feet of the proposed development. In addition, if extension is not found to be roughly proportional to the development, the City Shall add this to future years CIP consideration list.

### Strategy 4 – "Improved Crossings"

This strategy focuses on ensuring that safe street crossing locations are available, particularly along

high traffic volume streets or locations where there is a lot of pedestrian traffic (i.e. adjacent to schools, activity centers, etc.)

### Strategy 5 – "Pedestrian Corridors that Connect to Major Recreational Uses [

This strategy provides a connection between the sidewalk network and major recreational facilities, such as the Greenway Trail, the the Fanno Creek Trail and other recreational uses.

### Strategy 6 – "Pedestrian Corridors that Connect to Major Transit Locations [

This strategy provides sidewalks leading to major transit facilities, such as bus stops which service a high volume of riders. This strategy increases pedestrian safety and encourages transit use.

### Strategy 7 – "Pedestrian Corridors that Connect Neighborhoods"

This strategy puts priority on linking neighborhoods together with pedestrian facilities. This can include walkways at the end of cul-de-sacs and direct connections between neighborhoods (avoiding "walled" communities).

# Strategy 8 - "Reconstruct All Existing Substandard Sidewalks to City of Tigard Standards"

This strategy focuses on upgrading any substandard sidewalks to current city standards. Current standards are for five foot sidewalks to meet ADA<sup>6</sup> requirements. Several sidewalks exist that do not meet the minimum five foot requirement. Fronting property owners are responsible for sidewalk maintenance where pavement has fallen into disrepair.

### Strategy 9 - "Pedestrian Corridors that Commuters Might Use"

This strategy focuses on providing sidewalks in areas where commuters might walk. For example, connecting neighborhoods to large employment areas (i.e Washington Square Regional Center or the Tigard Triangle).

Table 5-1 lists each strategy in the order it was ranked by the committee and provides an assessment of how each of the strategies meets the requirements of each of the goals and policies.

<sup>6</sup> Americans with Disabilities Act, Uniform Building Code.

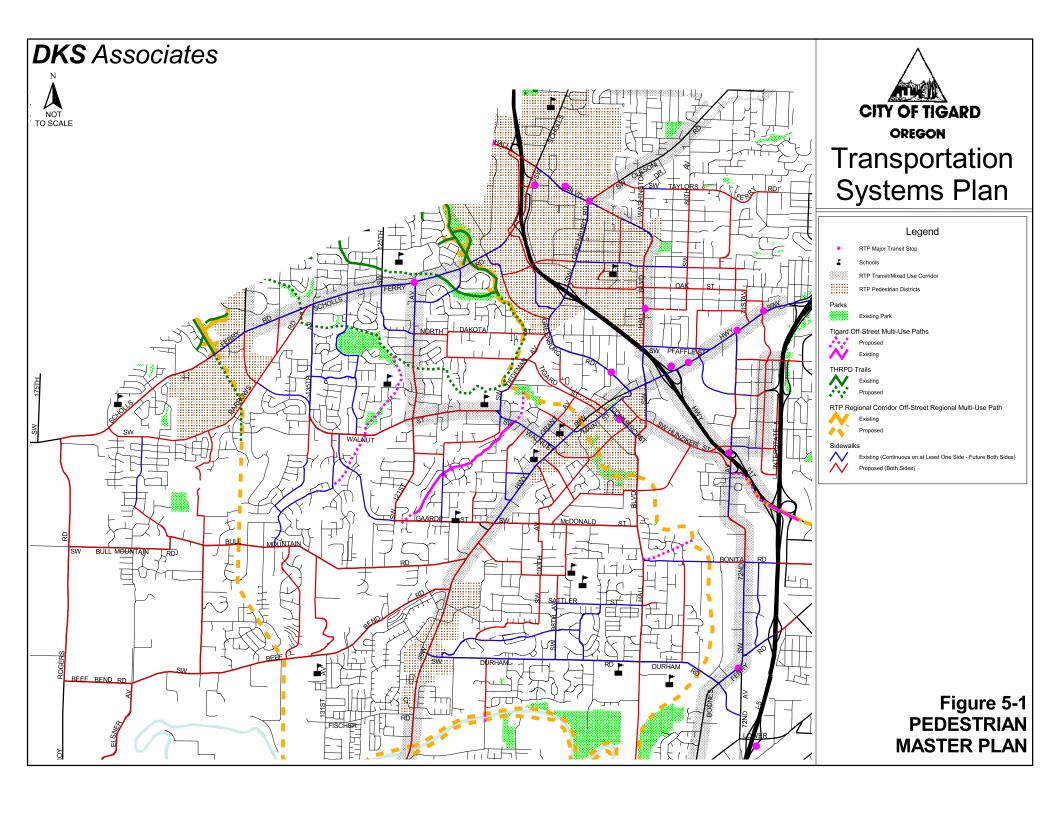
Table 5-1 Pedestrian Facility Strategies Comparisons

					Policies			
	Strategy	1-2	2-4	2-5	2-6	3-3	3-4	5-1
1.	Fill in gaps in network where some sidewalks exist	•	•	0	О	•	•	0
2.	Connect pedestrian corridors to schools, parks, activity centers	•	•	•	•	•	•	•
3.	Coordination of land use approval process to provide sidewalks & links to existing	•	•	0	1	0	•	•
4.	Improved crossings	•		0	(	(	(	(
5.	Pedestrian corridors that connect to major recreational uses	•	•	•	0	•	•	•
6.	Pedestrian corridors that connect to major transit locations	•	•	O	•	0	О	•
7.	Pedestrian corridors that connect neighborhoods	•	О	O	1	О	•	О
8.	Reconstruct substandard sidewalks to City standards	0	•	0	O	•	О	•
9.	Pedestrian corridors commuters might use	•	•	О	•	О	•	•

- Does not meet criteria
- Mostly meets criteria
- O Partially meets criteria
- Fully meets criteria

### RECOMMENDED PEDESTRIAN FACILITY PLAN

The strategies that had been evaluated by the TSP Task Force were ranked by each member of the committee according to his or her vision of priorities for the City of Tigard. The ranking of these strategies is listed in Table 5-1 from most important to least important. Three strategies were considered to be a high priority for pedestrians in Tigard and ranked significantly higher than the remaining strategies. These strategies were filling in network gaps, connections to schools, parks and activity centers and coordination of land use approval process to provide sidewalks and links to existing sidewalks.



A list of likely actions to achieve fulfillment of these priorities was developed into a Pedestrian Master Plan. The Pedestrian Master Plan (Figure 5-1) is an overall plan and summarizes the "wish list" of pedestrian-related projects in Tigard. From this Master Plan, a more specific, shorter term, Action Plan was developed.

The Action Plan consists of projects that the City should give priority to in funding. As development occurs, streets are rebuilt and other opportunities (such as grant programs) arise, projects on the Master Plan should be pursued as well.

It is preferable to provide pedestrian facilities on one side of the street if it means a longer section of the system could be covered (i.e. sidewalk on one side of the street for two miles is preferable to sidewalk on both sides of the street for one mile). In the case of significant stretches where sidewalk is only provided on one side of the road, particular emphasis should be placed on developing safe crossing locations. Development shall still be responsible for any frontage improvements, even if a pedestrian facility already exists opposite the proposed development. Sidewalks on both sides of all streets is the ultimate desire.

### POTENTIAL PROJECT LIST

Table 5-2 outlines potential pedestrian projects in Tigard. The City, through its Capital Improvement Program (CIP), joint funding with other agencies (Washington County, Metro) and development approval would implement these projects. The following considerations should be made for each sidewalk installation:

- Every attempt should be made to meet City standards
- All sidewalks should be a minimum of five feet wide
- Landscape strips should be considered and are encouraged (see standard street cross-sections in Motor Vehicles chapter)

### **Action Plan Projects**

Figure 5-2 and Table 5-2 summarize the Pedestrian Action Plan.

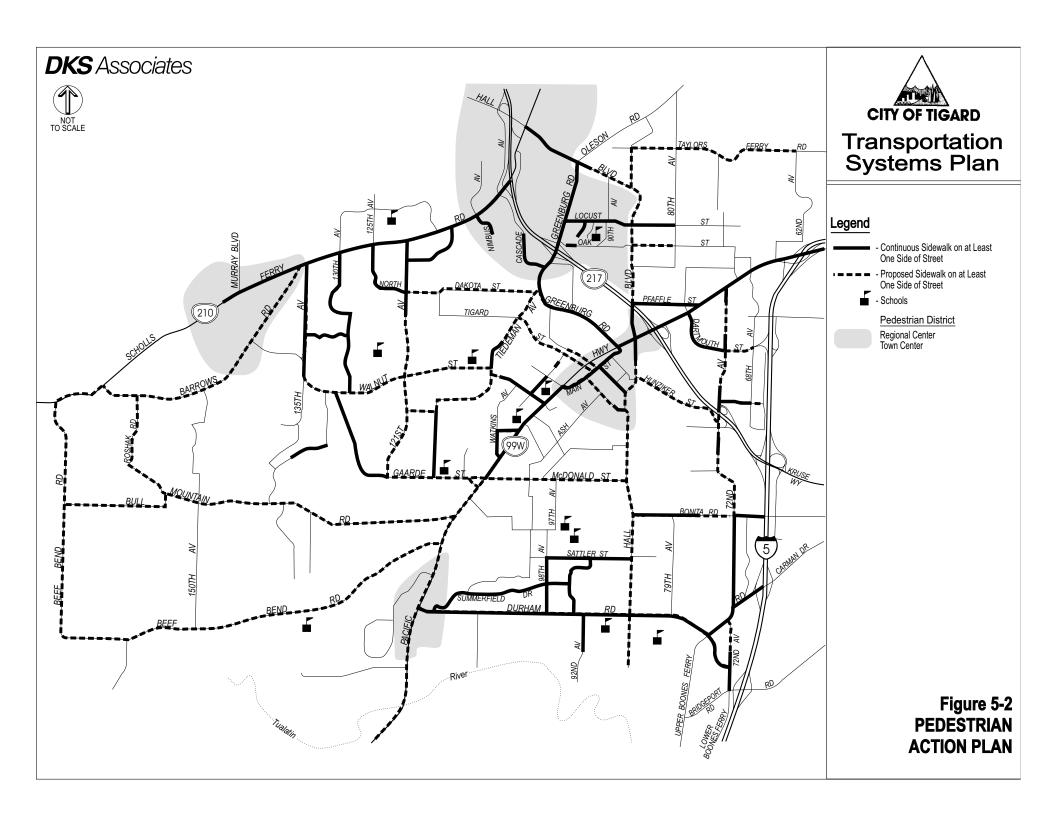
Table 5-2 Potential Pedestrian Projects

Potential Pedestrian Projects						
Rank*	Project	From	То			
	an Projects					
Н	Taylor's Ferry Rd	Washington Drive	62 <sup>nd</sup> Avenue			
Н	Washington Drive	Hall Boulevard	Taylor's Ferry Road			
Н	Hall Boulevard	Scholls Ferry Road	Pfaffle Street			
Н	Dartmouth Street	72nd	68th Avenue			
Н	72 <sup>nd</sup> Avenue	ORE 99W	Bonita Road			
Н	72 <sup>nd</sup> Avenue	Carman/Upper Boones Ferry	Durham Road			
Н	Hunziker Street	Hall Boulevard	72 <sup>nd</sup> Avenue			
Н	Hall Boulevard	North of Hunziker Street	South City Limits			
Н	Bonita Road	West of 72 <sup>nd</sup> Avenue	72 <sup>nd</sup> Avenue			
Н	McDonald Street	ORE 99W	Hall Boulevard			
Н	ORE 99W	McDonald Street	South City Limits			
Н	Beef Bend Road	ORE 99W	Scholls Ferry Road			
Н	Bull Mountain Road	ORE 99W	Beef Bend Road			
Н	Roshak Road	Bull Mountain Road	Scholls Ferry Road			
Н	Barrows Road	Scholls Ferry Road (West)	Scholls Ferry Road (East)			
Н	Walnut Street	135 <sup>th</sup> Avenue	Tiedeman Avenue			
Н	Gaarde Street	Walnut Street	ORE 99W			
Н	121 <sup>st</sup> Avenue	Gaarde Street	North Dakota Street			
Н	North Dakota Street	121 <sup>st</sup> Avenue	Greenburg Road			
Н	Tiedeman Avenue	Walnut Street	Greenburg Road			
Н	Tigard Street	115 <sup>th</sup> Avenue	Main Street			
Н	Burnham Street	Main Street	Hall Boulevard			
Н	Fonner Street	Walnut Street	121 <sup>st</sup> Avenue			
Н	Commercial Street	Main Street	Lincoln Street			
Н	Oak Street (RTP 6019)	Hall Boulevard	80 <sup>th</sup> Avenue			
Other Po	tential Projects					
M	80 <sup>th</sup> Avenue	Taylor's Ferry Road	Spruce Street			
M	Spruce Street	Hall Boulevard	80 <sup>th</sup> Avenue			
M	Oak Street	Greenburg Road	Hall Boulevard			
M	Oak Street	80 <sup>th</sup> Avenue	71 <sup>st</sup> Avenue			
M	Locust Street	80 <sup>th</sup> Avenue	72 <sup>nd</sup> Avenue			
M	74 <sup>th</sup> Avenue	Taylor's Ferry Road	South of Barbara Lane			
M	72 <sup>nd</sup> Avenue	North of Locust Street	Oak Street			
M	Spruce Street	78 <sup>th</sup> Avenue	71 <sup>st</sup> Avenue			
M	71 <sup>st</sup> Avenue	Oak Street	ORE 99W			
M	78 <sup>th</sup> Avenue	Spruce Street	ORE 99W			

Rank*	Project	From	То
M	Pine Street	71 <sup>st</sup> Street	69 <sup>th</sup> Street
M	69 <sup>th</sup> Street	Pine Street	ORE 99W
M	90 <sup>th</sup> Avenue	Hall Boulevard	Locust Street
M	62 <sup>nd</sup> /61 <sup>st</sup> Avenues	Taylor's Ferry Road	Pomona Street
M	Pomona Street	61 <sup>st</sup> Avenue	64 <sup>th</sup> Avenue
M	64 <sup>th</sup> Avenue	Pomona Street	ORE 99W
M	68 <sup>th</sup> Avenue	ORE 99W	South of Hampton Street
M	66 <sup>th</sup> Avenue	South of Hampton Street	Dartmouth Street
M	Hampton Street	68 <sup>th</sup> Avenue	66 <sup>th</sup> Avenue
M	Haines Street	68 <sup>th</sup> Avenue	Tigard City Limits
M	Shady Lane	Greenburg Road	95 <sup>th</sup> Avenue
M	95 <sup>th</sup> Avenue	Shady Lane	Greenburg Road
M	98 <sup>th</sup> Avenue	Greenburg Road	Main Street
M	115 <sup>th</sup> Avenue	North Dakota Street	Tigard Street
M	Cascade Avenue	Scholls Ferry Road	Existing sidewalk
M	Johnson Street	ORE 99W	End
M	Grant Avenue	Johnson Street	Tigard Street
M	Scoffins Street	Main Street	Hall Boulevard
M	Ash Avenue	Commercial Street	Scoffins Street
M	Ash Avenue	McDonald Street	Burnham Street
M	Frewing Street	ORE 99W	O'Mara Street
M	Garrett Street	ORE 99W	Ash Avenue
M	O'Mara Street	McDonald Street	Hall Boulevard
M	97 <sup>th</sup> Avenue	McDonald Street	Murdock Street
M	Murdock Street	97 <sup>th</sup> Avenue	103 <sup>rd</sup> Avenue
M	103 <sup>rd</sup> Avenue	Murdock Avenue	Canterbury Lane
M	Canterbury Lane	103 <sup>rd</sup> Avenue	ORE 99W
M	100 <sup>th</sup> Avenue	McDonald Street	Highland Drive
M	Highland Drive	100 <sup>th</sup> Avenue	Summerfield Drive
M	Sattler Street	100 <sup>th</sup> Avenue	98 <sup>th</sup> Avenue
M	98 <sup>th</sup> Avenue	Sattler Street	Murdock Avenue
M	Ross Street	Hall Boulevard	East End
M	79 <sup>th</sup> Avenue	Durham Road	Bonita Road
M	108 <sup>th</sup> Avenue	Durham Road	South End
M	133 <sup>rd</sup> Avenue	Bull Mountain Road	South End
M	Peachtree Drive	Bull Mountain Road	South End
M	150 <sup>th</sup> Avenue	Bull Mountain Road	Beef Bend Road
M	135 <sup>th</sup> Avenue	Walnut Street	Hillshire Drive
M	Hillshire Drive	135 <sup>th</sup> Avenue	Mistletoe Drive

Rank*	Project	From	То	
M	Mistletoe Drive	Hillshire Drive	Benchview Terrace	
M	Benchview Terrace	White Cedar Place	Bull Mountain Road	
M	132 <sup>nd</sup> Avenue	Walnut Street	Benchview Terrace	
M	Menlor Lane	Barrows Road	Sunrise Lane	
M	Sunrise Lane	Menlor Lane	150 <sup>th</sup> Avenue	
M	150 <sup>th</sup> Avenue	Sunrise Lane	Bull Mountain Road	
M	Washington Square	Pedestrian Improvements		
	Regional Center	(RTP 6022)		
M	Tiedeman Avenue	Walnut Street	Existing Sidewalk to North	
M	Watkins Avenue	Park Street	Walnut Street	
M	Off-Street Multi-Use	Tualatin River Crossing at approximately 108 <sup>th</sup> Avenue		
	Path			
M	Off-Street Multi-Use	I-5/ORE 217 Kruse Way Bridge linkage to 72 <sup>nd</sup> Avenue south of ORE		
	Path	217		
M	Off-Street Multi-Use	Powerline Corridor/Tualatin River/Fanno Creek/Greenway Park Loop		
	Path			

<sup>•</sup> H=High, M=Medium, L=Low Priority



### **Complementing Land Development Actions**

Land use actions are where significant improvements to the pedestrian system can occur. Basically a change in land use from vacant or under utilized land creates two key impacts to the pedestrian system:

- 1. Added vehicle trips that conflict with pedestrian flows
- 2. Added pedestrian volume that requires safe facilities

These impacts require mitigation to maintain a safe pedestrian system. Pedestrians walking in the traveled way of motor vehicles are exposed to potential conflicts that can be minimized or removed entirely with sidewalk installation. The cost of a fronting sidewalk to an individual single family home would be about \$1,000 to \$2,000 (representing less than one percent of the cost of a house). Over a typical 50 year life of a house this would represent less than \$50 per year assuming the cost of money is 4% annually. This cost is substantially less than the potential risk associated with the cost of an injury accident or fatality without safe pedestrian facilities (injury accidents are likely to be \$10,000 to \$50,000 per occurrence and fatalities are \$500,000 to \$1,000,000). Sidewalks are essential for the safety of elderly persons, the disabled, transit patrons and children walking to school, a park or a neighbor's home. No area of the city can be isolated from the needs of these users (not residential, employment areas or shopping districts). Therefore, fronting improvements including sidewalk are required on every change in land use or roadway project.

For any developing or redeveloped property in Tigard, the benefit of not providing sidewalks is only the cost savings to the developer – at the potential risk and future expense to the public. Therefore, sidewalks are required in Tigard with all new development and roadway projects.

It is important that, as new development occurs, connections or accessways are provided to link the development to the existing pedestrian facilities in as direct manner as possible. As a guideline, the sidewalk distance from the building entrance to the public right-of-way should not exceed 1.25 times the straight line distance. If a development fronts a proposed sidewalk (as shown in the Pedestrian Master Plan), the developer shall be responsible for providing the walkway facility as part of any frontage improvement required for mitigation of development.

It is also very important that residential developments consider the routes that children will use to walk to school and provide safe and accessible sidewalks to accommodate these routes, particularly within one mile of a school site. Additionally, all commercial projects generating over 1,000 trip ends per day should provide a pedestrian connection plan showing how pedestrian access to the site links to adjacent uses, the public right-of-way and the site front door. Conflict free paths and traffic calming elements should be identified, as appropriate.

### **Address Gaps in Pedestrian System**

Many of the areas developed in Tigard 10 to 25 years ago did not provide sidewalks. With as much of the City built-out (as is the case today) there are limited opportunities for development to create major portions of the missing pedestrian system. The historic gaps in the pedestrian walking system become more important as land development and activity grow creating new demands for an integrated pedestrian system. Current land developments build sidewalks on project frontages, but have little means or incentive to extend sidewalks beyond their property. Property owners without sidewalks are unlikely to independently build sidewalks that do not connect to anything. In fact, some property owners are resistant to sidewalk

improvements due to cost (they do not want to pay) or the impact to their frontage (they may have landscaping in the public right-of-way). As an incentive to fill some of these gaps concurrent with development activities, the City could consider an annual walkway fund that would supplement capital improvement-type projects. A fund of about \$40,000 to \$50,000 per year could build over a quarter mile of sidewalk to help fill gaps. If matching funds were provided, over double this amount may be possible. The fund could be used several ways:

- Matching other governmental transportation funds to build connecting sidewalks identified in the master plan.
- Matching funds with land use development projects to extend a developer's sidewalks off-site to connect to non-contiguous sidewalks (especially with residential development and its access to schools and parks, commercial development linking retail (ie deli, bank, ...) with employment)
- Supplemental funds to roadway projects which build new arterial/collector sidewalks to create better linkages into neighborhoods.
- Matching funds with adjacent land owners that front the proposed sidewalk.
- Reimbursement agreements with developers

### **Parks and Trails Development**

The City Parks and Recreation Department and Metro Greenspaces programs are responsible for the majority of off-street trail opportunities. These two agencies must coordinate their pedestrian plans to provide an integrated off-street walking system in Tigard. Recent Metro Greenspaces initiatives and City park projects provide an opportunity to implement the off-street trails in Tigard as an integrated element of the pedestrian action plan. The Fanno Creek Trail and Powerlines trail systems are already well developed north of Tigard in Beaverton. Because of the regional nature of the interconnected powerlines to Tualatin River to Fanno Creek trail system, Tigard will need to work cooperatively with Metro, Washington County, Tualatin Hills Parks and Recreation District and the City of Beaverton.

### Safety

Pedestrian safety is a major issue. Pedestrian conflicts with motor vehicles are a major issue in pedestrian safety. These conflicts can be reduced by providing direct links to buildings from public rights-of-way, considering neighborhood traffic management (see Chapter 8: Motor Vehicles), providing safe roadway crossing points and analyzing/reducing the level of pedestrian/vehicle conflicts in every land use application.

In setting priorities for the pedestrian action plan, school access was given a high priority to improve safety. However, beyond simply building more sidewalks, school safety involves education and planning. Many cities have followed guidelines provided by Federal Highway Administration and Institute of Transportation Engineers. Implementing plans of this nature has demonstrated accident reduction benefits. However, this type of work requires staffing and coordination by the School District as well as the City to be effective.

Several "pedestrian crossing evaluation" locations were identified on the Pedestrian Master Plan and on the Pedestrian Action Plan. These are locations where it may be desirable (where warrants are met) to install a pedestrian activated signal for the sole purpose of allowing pedestrians to cross the roadway.

### 2040 Coordination

Metro has designated three areas within Tigard as 2040 land use designated pedestrian districts. These areas will require the greatest attention to the development of integrated pedestrian networks. The three areas include:

- Washington Square Regional Center
- Downtown Tigard Town Center/Main Street/Commuter Rail Station Area
- King City Town Center

The City of Tigard has developed a plan for the Washington Square Regional Center which is in the final approval process. While not a 2040 land use designated area, the Tigard Triangle has special development code regulation in Tigard that pertain to pedestrian design. Plans will need to be developed for both the Tigard Downtown and King City. The areas designated on Figures 5-1 and Figure 5-2 are the pedestrian districts in Tigard.